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Augmented intelligence in banking

The client at the heart of transformation

IBM Institute for Business Value

Systems that learn

The Fourth Industrial Revolution, in which augmented human intelligence creates a confluence of the physical, digital and biological realms, is underway.¹ We are now living through the “end of code,” moving from a coding world to a learning world. In the coding world, the aim was to understand what businesses wanted to do and produce programs that executed those requests. The learning world is characterized by systems that have three essential elements: knowledge, skills and experience.

Computing systems are now being produced that learn from and with people – that augment people rather than replacing them. This is augmented intelligence. Nowhere is the impact of the Fourth Industrial Revolution clearer than in the financial services industry.

Augmented intelligence is particularly important when considered in the context of customer experiences and satisfaction. Companies are using it to automate customer interactions, eliminate wait times, speed product searches and

recommend the “next best action” for call center agents. And the importance isn’t lost on senior management.

In an August 2017 survey on sales and marketing by the IBM Institute for Business Value, 61 percent of marketing and sales executives said cognitive computing (a form of augmented intelligence) will be a disruptive force in their industries.² Yet only 24 percent of survey respondents said they have a strategy for cognitive computing today.³

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Augmented intelligence in financial services

There are three primary domains in financial services where augmented intelligence solutions are already at work:

Client experience and engagement. How organizations create and provide a new kind of experience. This includes engaging with clients and prospects in meaningful conversations. Of course, engagement with customers has evolved, but has not seen any real revolution. Augmented intelligence allows for a completely new and personalized experience in which systems are taught – not programmed.

Then, like any good student, the more the system experiences, the more it learns and the better it performs. What's unique here is that the system can learn from clients about their individual preferences and expectations, allowing for ever-more tailored, personalized experiences. This is a revolution in user interfaces and

experiences. Another expected outcome is improvement of the consistency of services delivered, no matter the channel, the geography, or the person providing the experience.

Advisory services. On the heels of worldwide economic crisis, one of the biggest pain points for banks is the loss of trust. The 2016 Edelman Trust Barometer asked individuals if they trusted eight industries “to do what is right.” Financial services scored lowest at 51 percent.⁴ Despite that, many financial institutions continue business-as-usual, pushing products and services to customers with little rationale for why one offering is preferable to another.

Leading institutions, however, are beginning to differentiate themselves by deploying augmented intelligence for decision support. Augmented intelligence systems can help advisors or customers understand and make faster, more accurate decisions. The capability

now exists to build evidence-based, probabilistic systems that understand individual customer preferences, and make highly reasoned and well-explained recommendations. This is a unique opportunity to re-establish trust between banks and clients by sharing the facts and evidence supporting all recommendations. The auditability of the advice is also improved.

Risk and compliance. This is a huge and growing domain for financial institutions facing the fantastic complexity of laws, regulations and rules. In fact, since 2008, global banks have paid more than USD 320 billion in regulatory fines and penalties.⁵ Some augmented intelligence systems can ingest new regulations as they are created, and review 800 million pages of text per second, providing decision support on issues as diverse as regulatory reporting requirements for derivatives and consumer protection for mortgages.⁶

Staying client-centric

One of the many transformational aspects of the internet is the power it has bestowed on customers, who now have greater access to comparative data than ever before. And access to businesses has, in many ways, been commoditized. With so many choices of where to save, invest and borrow, and many banks offering similar rates and fees, customers are voting based on experiences. According to one survey, business-to-business companies that score well in customer engagement earn 50 percent higher revenues and a 34 percent lift in profitability than those scoring poorly.⁷ With this in mind, some banks are turning to augmented intelligence as a competitive differentiator for customer experiences. Following are several examples that are being designed or deployed at financial institutions.

- Conversational agents (also known as chatbots): Financial institutions are eager to differentiate themselves from their competition. At the same time, clients want an omni-channel approach that provides a satisfying, personal experience. Augmented intelligence is a new kind of channel, delivering not only natural language solutions, but a complete set of senses like visual recognition or tone analyzers. Doing so, they are able to deliver a unique client experience through innovative user interfaces. Depending on customers' preferences and the services being rendered, conversational agents work in concert with humans to provide a streamlined experience.

Conversational agents are also used by internal human agents who are frequently overwhelmed by internal and external data. In order to deliver a service or advice quickly,

chatbots provide the agent with the right answer or "the next best decision" almost instantaneously. In effect, conversational agents now allow for an omni-channel client experience that offers a smooth client journey.

- Augmented advisors: A leading French bank is deploying augmented advisors through 5,000 branches and 20,000 agents. Relationship managers can ask any question to help prepare for an interview with a customer, or get an answer during the interview itself. Remarkably, the augmented advisor can answer any client requests in business domains as diverse as savings, insurance and healthcare. The bank's augmented advisor ingested 52,000 documents to support the relationship managers in their daily client interactions and enabled them to position the client's experience as central focus in their relationship.

- **Email analyzer:** Another leading French financial institution is using an augmented intelligence solution that analyzes and sorts up to 350,000 emails per day, including identifying which emails are of the greatest urgency and detecting the clients' intents. This helps the relationship managers reply in the most efficient manner. Some email responses are prepared by the system to be sent by a manager. The company is seeing significant productivity gains from this. In fact, in its first pilot, it saw a satisfaction rate of greater than 90 percent and research time improved by 60 percent.⁸
- **Industrialization:** Banks don't want to simply do a pilot or proof-of-concept. They want augmented intelligence solutions that are ready to scale for thousands of users within the enterprise and millions of customers. To do so, "cognitive factories" are increasingly being designed jointly with clients. When implemented, they allow clients to manufacture their solutions at scale within the bank leveraging governance, assets, projects and skill sets.

Key lessons learned

Transformation is an ongoing journey and what delights individual customers is a somewhat fickle matter. There is much to be learned from the experiences of first movers who have used augmented intelligence to become more customer-centric:

1. Transformation should start with a holistic augmented intelligence strategy and business case with an enterprise-wide governance framework. Then identify opportunities prioritized by customer impact, each with a well-defined scope and senior management commitment. Appoint "champions" throughout the organization.
2. An augmented intelligence project aimed at end users can only be successful if the entire user experience is rethought and redesigned. Employ design thinking, a framework for learning and action that promotes a focus on user outcomes. The benefits of design thinking include helping employees develop new ideas and prototypes, along with

creating powerful words and imagery to describe them to peers and customers. The insights gained from augmented intelligence also create value.

3. For machine learning to be most effective, it must be exposed to massive amounts of data and extensive usage by agents. Don't hedge on the amount of data that flows through augmented intelligence systems. More usage can lead to greater personalization of solutions, such as obtaining a mortgage, reallocating a portfolio or evaluating economic factors to make high-quality investment decisions.
4. While it is possible to assemble augmented intelligence solutions from various disparate parts, there is no assurance that unrelated components will work together smoothly. A highly-integrated, well-orchestrated system is preferred for financial institutions that want their solutions to spend less time in test and more time in production.

5. Giving the augmented intelligence solution a name and personality allows users to form an emotional bond and empathize with it. This entails more than just a name. Consider, for example, gender and formality of voice.
6. It is essential for employees to understand and experience that augmented intelligence systems are meant to augment human performance, not replace it. Strive to keep the use and potential of augmented intelligence in perspective at all levels of the business.

Looking ahead

Leading banks in Europe and around the world have already started on the journey to customer centricity. They see augmented intelligence as a path to the future of ecosystems, engagement and experiences.

Banks and bankers have a clear choice. Will it be business-as-usual, battling upstart competitors with fewer assets and allowing them to provide similar services at a lower cost? Or a bold, new future, building upon the strong customer relationships that traditional banks have nurtured over many years? An augmented banker for an augmented customer: this is the way to go.

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